

REMARKS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1 and 3-12 are currently pending. Claims 2, 13, and 14 have been canceled without prejudice; and Claims 1 and 3-12 have been amended by the present amendment. The changes to the claims are supported by the originally filed specification and do not add new matter.

In the outstanding Office Action, Claims 1-12 were rejected under 35 U.S.C. § 112, second paragraph, regarding the phrase “adversely affecting the communication conditions within the communication channel”; Claim 13 was rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter; and Claims 1-13 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,983,125 to Smee et al. (hereinafter “the ‘125 patent”).¹

Applicants wish to thank the Examiner for the interview granted Applicants’ representative on May 15, 2007, at which time a proposed amendment to the claims was discussed. However, no agreement was reached pending the Examiner’s further consideration of the claims upon formal submission of a response to the outstanding Office Action.

Applicants respectfully submit that the rejection of Claim 13 under 35 U.S.C. § 101 is rendered moot by the present cancellation of that claim.

Amended Claim 1 is directed to a method for transmitting data in a telecommunication system that includes at least a first transceiver and a second transceiver linked together by means of at least one communication channel, at least one of the transceivers being mobile, the method comprising: (1) spreading the data over a plurality of

¹ Applicants note that Claim 14, which was added in the Preliminary Amendment filed April 2, 2004, was not addressed in the outstanding Office Action.

components; and (2) an equalization step of multiplying each of the components resulting from the spreading step by a corresponding predetermined equalization value representative of communication conditions within the communication channel, wherein at least one predetermined equalization value is determined to account for a Doppler effect resulting from a movement of the mobile transceiver, which adversely affects the communication conditions within the communication channel. Further, Claim 1 has been amended to recite that each predetermined equalization value is calculated using an equation that includes a parameter representative of a noise level in said communication channel, and an additional noise parameter representative of said Doppler effect. The changes to Claim 1 are supported by the originally filed specification and do not add new matter.²

Applicants respectfully submit that the rejections of the claims under 35 U.S.C. § 112, second paragraph, are rendered moot by the present amendment to the claims. Claims 1 and 7 have been amended to clarify that movement of the mobile transceiver adversely affects the communication conditions within the communication channel. Accordingly, the rejections of the claims under 35 U.S.C. § 112 are believed to have been overcome.

Applicants respectfully submit that the rejection of Claim 1 as anticipated by the '125 is rendered moot by the present amendment to Claim 1.

The '125 patent is directed to a method and apparatus for varying the length of an adaptive equalizer based on Doppler frequency. As shown in the flowchart of Figure 3, the '125 patent discloses that the Doppler frequency is estimated in step 304, the equalizer length is adjusted based on the Doppler frequency in step 306, and the received signals are filtered using the equalizer in step 308. Further, the '125 patent discloses that the output of the FIR filter is based on a sum of coefficients multiplied by the received signals $X^m[n]$.³ Moreover, the '125 patent discloses that the equalizer coefficients are initialized according to any

² See, e.g., Figure 1 and the discussion related thereto in the specification. See also original Claim 2.

³ See '125 patent, column 6, line 5.

conventional adaptive algorithm technique and that “techniques according to the present invention do not depend upon the equalizer coefficients *in any particular manner*.”⁴ Rather, the ‘125 patent discloses that the length of the FIR filter is adjusted by adjusting the summation limits M_1 and M_2 shown in column 6, which define the equalizer length.

However, Applicants respectfully submit that the ‘125 patent fails to disclose an equalization step of multiplying each of the components resulting from the spreading step by a corresponding determined equalization value, wherein at least one predetermined equalization value is determined so as to account for a Doppler effect resulting from a movement of the mobile transceiver, as recited in Claim 1. Moreover, Applicants respectfully submit that the ‘125 patent fails to disclose that each predetermined equalization value is calculated using an equation that includes a parameter representative of a noise level in said communication channel, and an additional noise parameter representative of said Doppler effect. In this regard, Applicants note that the ‘125 patent merely discloses changing the summation limits M_1 and M_2 , which define the length of the equalizer, but the ‘125 patent does not disclose that at least one of the predetermined equalization values which *multiplies* the components determined by the spreading step, is determined so as to account for a Doppler effect. The ‘125 patent does not disclose that the coefficients C^m , which the ‘125 patent discloses are multiplied by the equalizer input, are determined so as to account for the Doppler effect such that each predetermined equalization value is calculated using an equation that includes a parameter representative of a noise level in said communication channel, and an additional noise parameter representative of said Doppler effect. Rather, the ‘125 patent discloses an MMSE optimization algorithm (LMS) in which the coefficients are updated using the observation vector $X[n]$ and the symbol estimates $Y[n]$. See ‘125 patent, column 6, line 64. In contrast, in a non-limiting example, the present specification shows that

⁴ See ‘125 patent, column 7, lines 62-67.

the equalization values $W_i(j)$ for use with an MMSE algorithm are calculated using an equation including the two claimed parameters. Accordingly, for the reasons stated above, Applicants respectfully submit that amended Claim 1 (and all associated dependent claims) patentably defines over the '125 patent. Moreover, Applicants request that, if a rejection of amended Claim 1 based on the '125 patent is presented in a future Office Action, that a specific passage be identified in the '125 patent that discloses the claimed "equation that includes a parameter representative of a noise level ... and an additional noise parameter representative of said Doppler effect."

Independent Claim 7 recites limitations analogous to the limitations recited in Claim

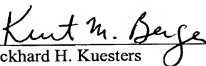
1. Moreover, Claim 7 has been amended in a manner analogous to the amendment to Claim
1. Accordingly, for reasons analogous to the reasons stated above for the patentability of Claim 1, Applicants respectfully submit that the rejection of Claim 7 (and all associated dependent claims) is rendered moot by the present amendment to Claim 7.

Thus, it is respectfully submitted that independent Claims 1 and 7 (and all associated dependent claims) patentably define over the '125 patent.

Consequently, in view of the present amendment and in light of the above discussion, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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